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PATENTAMENDMENT C (IN RESPONSE TO PAPER NO. 20050705
(OFFICE ACTION DATED JULY 7, 2005))REMARKS

Claims 23-69 were pending in this case. In this amendment hereinabove, claims 30, 32, 46, 48, 61 and 63 have been canceled, and claims 23, 26-27, 29, 31, 36-37, 39, 42-43, 45, 47, 52-53, 55, 58-60, 62 and 67-68 have been amended. Accordingly, claims 23-29, 31, 33-45, 47, 49-60, 62 and 64-69 are now pending. Based upon the following remarks, it is respectfully submitted that these claims are allowable.

A. §103 Rejection

Claims 23-28, 30, 32-35, 38-44, 46, 48-51, 54-59, 61, 63-66 and 69 were rejected under 35 U.S.C. §103(a) as being unpatentable over Jones et al., U.S. Patent No. 4,750,112 ("*Jones*"). This rejection is respectfully traversed and it is submitted that claims 23-28, 33-35, 38-44, 49-51, 54-59, 64-66 and 69 (claims 30, 32, 46, 48, 61 and 63 having been canceled hereinabove) recite subject matter which is patentable over *Jones*.

Regarding independent claims 23, 39 and 55, the remarks submitted in Amendment B concerning how the microcode execution cycles M1-M6 and machine instructions I1-I25 of *Jones* are not only not substantially unrelated, but are, to the contrary, substantially related, are maintained and incorporated herein by reference. Notwithstanding this, independent claims 23, 39 and 55 have been amended hereinabove to include a limitation from originally filed dependent claims 30, 32, 46, 48, 61 and 63, i.e., that of completing execution of the advanced sequence of instructions which had been advanced to the first pipeline subcircuit portion prior to interruption of the advancing of the sequence of instructions to the first pipeline subcircuit portion. In other words, execution of the substantially unrelated microcode does not occur until completion of the execution of the advanced sequence of instructions, i.e., those instructions which had been

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advanced to the first pipeline subcircuit portion prior to the interruption of the advancing of instructions.

Regarding original dependent claims 30, 32, 46, 48, 61 and 63, the Examiner contends that *Jones* teaches that "prior to said executing of said plurality of microcode, completing executing of one or more of said advanced sequence of instructions which had been advanced to said first pipeline subcircuit portion prior to said detection of an occurrence of said second combination of said respective states of said one or more clock control signals". According to the Examiner, *Jones* teaches in Figure 5 that "instruction I5 is completely executed prior to the completion of microcode M2" (emphasis added). However, that is not what *Jones* teaches. As noted in Amendment B, *Jones* expressly teaches at column 8, lines 58-64, that instruction I5 requires an extra execution cycle (M2), and that microcode M2 is the second microcode step for instruction I5. In other words, while it may be that instruction I5 can be partially completed prior to extra execution cycle M2, instruction I5 cannot be fully completed until after executing microcode M2. Hence, execution of instruction I5 cannot be completed prior to execution of microcode M2.

Therefore, it is respectfully submitted that *Jones* clearly and unequivocally describes machine instructions and microcode that are not only substantially related, but are interdependent in that such microcode constitutes required parts of the execution of the machine instructions. This interdependent nature of the machine instructions I1-I25 and microcode execution cycles M1-M6 is further described and emphasized at column 8, lines 47-50, where it is stated (with emphasis added) that "I1-I25 represent machine instructions; M1-M6 represent additional microcode execution cycles required to complete the execution of a machine instruction", and at column 8, lines 66-68, where it is stated (with emphasis added) that "I7 is an example of a machine instruction requiring four extra microcode execution cycles (M3, M4, M5, and M6)."

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Hence, to describe in simple terms at least one aspect of this difference, it can be said that in the apparatus/method of *Jones*, first the pipeline is stalled and then execution of the instructions is completed, i.e., the pipeline is stalled so as to allow completion of instruction execution. In contrast thereto, in the presently claimed invention, first execution of the instructions is completed and then the pipeline is stalled, i.e., instruction execution is completed so as to allow the pipeline to be stalled.

Further, while this point was raised and discussed in Amendment B, the Examiner did not reply or provide any form of response. Accordingly, it is respectfully submitted that, in view of the express, clear and unequivocal statements in *Jones*, as discussed hereinabove, about the relationship(s) between the machine instructions and microcode, for this rejection to be maintained by the Examiner, any such continued rejection must be conveyed in a non-final Office Action.

Regarding dependent claims 35, 51 and 66, the remarks submitted in Amendment B are maintained and incorporated herein by reference.

Regarding dependent claims 33, 34, 49, 50, 64 and 65, the remarks submitted in Amendment B are maintained and incorporated herein by reference.

B. Allowable Claims

Claims 29, 31, 36, 37, 45, 47, 52, 53, 60, 62, 67 and 68 were objected to as being dependent upon rejected base claims, but were identified as being allowable if rewritten in independent form to include all limitations of their respective base claims and any intervening claims. These claims have been amended to appear in independent form, including all limitations of their respective base claims and any intervening claims. Accordingly, these claims are in condition for allowance.

C. Conclusion

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Claims 23-29, 31, 33-45, 47, 49-60, 62 and 64-69 remain pending in this case. Based upon the foregoing, it is respectfully submitted that these claims are allowable, and reconsideration and early allowance of these claims are requested.

Respectfully submitted,

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